Fox Hunting Enclosures Surveyed for Dangerous Parasite

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In 1989 red foxes illegally transported into South Carolina by an Ohio dealer were found to be infected with the tapeworm *Echinococcus multilocularis* (see SCWDS BRIEFS Vol. 5 No. 4). This parasite was not known to occur in the Southeast and is of significance because the larval form can cause fatal liver disease in humans. Subsequent investigations suggested that large numbers of potentially infected red foxes and coyotes from the same animal dealer had been sold to numerous fox hunting enclosures throughout the southeastern United States (see SCWDS BRIEFS Vol. 7 No. 3).

From December 1991 to May 1992, SCWDS conducted a survey of fox hunting enclosures to determine whether this parasite had become established. Ten enclosures, 4 in Georgia and 6 in South Carolina, were studied. The survey focused primarily on the examination of rodents for larval infections of *E. multilocularis*, but fox and coyote droppings were examined for eggs of the worm when possible.

Three hundred ninety rodents (101 from Georgia and 289 from South Carolina) were examined and found to be negative for *Echinococcus* infection. Fourteen species of rodents were sampled, but the majority of individuals were cotton rats. Only 1 coyote from Georgia was available for examination, and it was negative for *E. multilocularis* infection. Fifty-nine fox and coyote scat samples were examined for parasite eggs and used in a prey survey. None of the samples contained eggs of *E. multilocularis*, and only 11 samples contained appreciable amounts of hair. The lack of rodent hair in the scats indicated that foxes and coyotes were not eating many wild-caught mammals but were relying on the supplemental feed provided.

The results of this study suggest that *E. multilocularis* has not become established in fox hunting enclosures in Georgia or South Carolina, despite strong circumstantial evidence that infected red foxes have been introduced previously. Nevertheless, the probability of establishment following release of infected animals into this region should still be of concern. *Echinococcus multilocularis* is extremely adaptive and is biologically suited to exist in diverse ecological settings. Furthermore, importation of infected foxes and coyotes poses an immediate threat to human health since these animals are shedding infective eggs in their feces. For these reasons, any future translocation and release of known host species from *E. multilocularis* enzootic areas should be discouraged.